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HARD CHOICES

A Report on the Increasing Gap Between America's Infrastructure Needs and Our Ability To Pay for Them

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Appendix 1. ALABAMA

A CASE STUDY

PREPARED FOR THE USE OF THE

SUBCOMMITTEE ON ECONOMIC GOALS AND INTERGOVERNMENTAL POLICY

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

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Preface

Infrastructure problems are widespread. They do not respect regional or state boundaries. To secure a better data base concerning national and state infrastructure conditions and to develop threshold estimates of national and state infrastructure conditions, the Joint Economic Committee of the Congress requested that the University of Colorado's Graduate School of Public Affairs direct a twenty-three state infrastructure study. Simultaneously, the JEC appointed a National Infrastructure Advisory Committee to monitor study progress, review study findings and help develop policy recommendations to the Congress.

In almost all cases, the studies were prepared by principal analysts from a university or college within the state, following a design developed by the University of Colorado. Close collaboration was required and was received from the Governor's staff and relevant state agencies.

Because of fiscal constraints each participating university or college agreed to forego normal overhead and each researcher agreed to contribute considerable time to the analysis. Both are to be commended for their commitment to a unique and important national effort for the Congress of the United States.

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INFRASTRUCTURE NEEDS AND RESOURCES OF SELECTED STATE AND LOCAL GOVERNMENT PROGRAMS IN ALABAMA

FINAL DRAFT

Center for High Technology Management & Economic Research
School of Administrative Science
The University of Alabama in Huntsville

OCTOBER 1983

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I. INTRODUCTION

In the last five years, the condition of the nation's infrastructure has become a major public policy issue. Reports of the deterioration of roads, bridges, water supply and treatment systems, ports and terminals have documented not only the need to increase spending on repair and maintenance but also the very real danger of physical harm and environmental degradation. Yet, nationwide, the rate of investment in public capital--both new development and maintenance of existing facilities--has declined alarmingly.

The tax-exempt bond market is no longer a low-cost alternative. Interest rates are at record levels. Federal grants have been reduced. State and city governments are wrestling with extraordinarily tight budgets.

This report is the product of Alabama's participation in a national study sponsored by the Joint Economic Committee of Congress and coordinated by the Graduate School of Public Affairs at the University of Colorado, Denver. Governor Wallace agreed in August 1983 to Alabama's participation and designated the Center for High Technology Management and Economic Research at The University of Alabama as the agency to conduct the study. The Tennessee Valley Authority provided the funds for this study.

Scope

This study is a survey of existing data and reports on Alabama's state and local government infrastructure needs and the financial resources available to meet them, projected to the year 2000. The Center had six weeks to complete the study.

Several observations will help to clarify the scopy of this study.

1. The study outline called for estimates of investment needs, revenue, and needs vs revenue for the year 2000 for the services listed below.

2. It was found that estimates of future needs and resources were not available in almost all instances. No attempt was made to generate any verifiable estimates beyond those already available from the public agencies involved.

3. The study is limited to only Alabama state and local government infrastructure.

4. "Infrastructure" is defined for purposes of this study to include highways, roads and streets; mass transit; airports; water transport and terminals; municipal and industrial water systems; sewerage; and water transportation and terminals.

5. In making projections to the year 2000 the study assumes continuation of the present mix of federal, state and local responsibilities and funding sources.

Governmental Responsibilities

Alabama does not have a central state planning agency. Agencies that have varying degrees of involvement with the infrastructure systems included in this study are:

Alabama Highway Department
Alabama Department of Environmental Management
Alabama Department of Public Health
Department of Economic and Community Affairs

It should be noted that the Department of Environmental Management was created by the State Legislature in 1981 and combined the following state agencies:

Alabama Water Improvement Commission
Alabama Air Pollution Control Commission.

Likewise the Department of Economic and Community Affairs was created by the State Legislature in 1983 and combined the following state agencies:

Alabama Department of Energy
State Planning and Federal Programs
Office of Highway and Traffic Safety.

All the above departments have provided data for this study. However, none of them was able to provide detailed data and projections which are available in other states. Data on local government infrastructure needs and resources were found to be quite fragmented. Generalizations based on the scattered capital improvement programs, functional plans, and related documents that were available are subject to substantial error.

Summary

The task of collecting data and making projections on the relation of state public works infrastructure needs versus federal and local revenues to satisfy these needs has proven difficult. Generally, each of the six infrastructure categories treated herein have been administered through a separate state office. Also, several municipalities have taken an independent role in funding parts of their infrastructure as well as in seeking federal grants for this purpose. Consequently, the cognizant state offices do not always have complete knowledge and control of important data on infrastructure areas.

Cognizant state infrastructure offices have not been assigned the task of making needs estimates through the rest of this century. The authors have developed their estimates from such parameters as population growth, historical construction trends and other data. Similarly, the projections of available revenue to meet future needs have been based on historical trends. Unfortunately, the federal funds previously available for much of past infrastructure construction have been recently reduced. Prudence requires that projections of future federal assistance follow this pattern. One impact of this recent reduction in federal assistance is that data are not available as to how well state revenues can be increased to "take up the slack" left by reduced federal aid. Again, prudence and knowledge of the near-future state economic outlook have caused the authors to estimate that state revenues to support infrastructure needs will probably not exceed present levels in constant per capita dollars.

The total of all state infrastructure needs in this report is $16.1B in 1982 dollars (Table I-1). Estimated unmet needs are $4.1IB. Total need for airports is assumed to be roughly equal to expected revenues available. However, this is a conservative estimate and needs may exceed revenues, or revenues may fall short of the estimate. With this in mind and with the lack of a good estimate for mass transit needs and water supply revenues, total revenue shortfall probably exceeds the reported 4.1 billion figure by a considerable margin.

TABLE 1-1

A Summary of Unmet Infrastructure Needs in Alabama: 1983 - 2000

(In millions of 1982 dollars)

Infrastructures	Estimated Needs	Estimated Revenues	Estimated Unmet Need or Revenue Shortfall
Sewerage Systems	$ 1,000.7	$ 778.9	$- 221.8
Trafficways	12,580.0	8,740.0	- 3,840.0
Airports	1,600.0	1,660.9	+ 60.9
Water Systems	816.0	(unestimated)	(unestimated)
Water Transport & Terminals	100.0	(unestimated)	- 100.0
Rail	15.3	7.7	- 7.6
Mass Transit	(unestimated)	(unestimated)	

II. ALABAMA OUTLOOK [6,7]

Three years of continuous recession have dealt the Alabama economy double blows. Not only have recessionary pressures brought growth in the state's economy to a halt, but also a number of promising trends that emerged in the Alabama economy during the 1970's have been reversed. Real growth in Alabama Gross State Product, the broadest measure of economic well-being, has been negative during the three years after 1979. Although real growth in Gross National Product has averaged zero during the past three years, no growth becomes attractive when the alternative is economic decline. The performance of the Alabama economy in comparison to the nation's during the past three years represents an about-face in the relationship between the state and national economies from that of the early 1970's when the Alabama economy was growing substantially faster than the nation's. Similarly, other measures within the state's economy, notably the unemployment rate and personal income, have experienced turnabouts in favorable trends as a result of the recession.

The unemployment rate is one gauge of the damage done to the state's economy. During most of 1982 unemployment in Alabama was the second highest in the nation. Other visible evidence of the recession is found in plant closings, production cutbacks and layoffs that have become almost commonplace on the Alabama scene, most uncharacteristic for a Sunbelt state.

Alabama and Recession

The Alabama economy grew impressively between 1970 and 1979. Total personal income as one example of economic vitality jumped by 64.2 percent during this period, ranking Alabama nineteenth among all the states. As a result, Alabama's per capita personal income as a ratio of U.S. per capita personal income rose steadily from 73 percent in 1970 to 79 percent in 1979. However, by 1980 a downturn was evident as the Alabama/U.S. per capita personal income ratio fell to 77 percent.

During the 1970's the unemployment rate in Alabama placed consistently below the national average, hovering about the seven percent level. But in 1980 joblessness in the state increased rapidly to 8.8 percent, climbing further in 1981 to 10.7 percent. These rates were considerably above employment rates for the nation as a whole during those years of 7.1 percent and 7.6 percent, respectively. Alabama's unemployment during the first nine months of 1982 averaged above fourteen percent, the second highest in the nation, and the preliminary state jobless rate for October was fifteen percent.

Unadjusted total personal income in Alabama increased by only 21.7 percent between 1979 and 1981 while total employment declined by 0.8 percent. On the basis of employment and personal income, Alabama now ranks thirty-fifth in the nation.

Alabama's Industrial Structure

The industrial structure of the Alabama economy holds the key to the puzzle of the severity of the recession within the state. Relatively speaking, Alabama relies heavily on sectors of the economy that are particularly sensitive to the high interest rates and tight monetary policies that have characterized this recession.

In 1979 contract construction accounted for 4.7 percent of total U.S. employment, while 22.0 percent of the work force was engaged in manufacturing. By comparison, in Alabama 5.1 percent of all jobs in 1979 were in contract construction and 25.3 percent in manufacturing Within manufacturing, the primary metals industry accounted for 1.3 percent of all jobs in the U.S., compared to 5.1 percent of all Alabama jobs. Nationally the textile and apparel industries, which have not fared well in recent years, employed 1.7 percent of all workers in 1979; in Alabama the share of employment by the textile and apparel industries was 4.8 percent.

One result of the recession has been the worst sales slump for U.S. automakers since the Great Depression. Alabama's once-thriving aluminum and steel industries have suffered as a consequence. Primary metals employment in Alabama dropped by 16.9 percent from 1979 to 1981. In the summer of 1982 the United States Steel plant in Fairfield was shut down completely. Contract construction in Alabama declined by 13.8 percent from 1979 to 1981. In addition to the steel industry, the textile and apparel industries have been plagued by import problems--the result of both changing comparative advantages and unfair trade practices by foreign manufacturers.

Alabama's rural economy compounds the suffering. Farming in Alabama in 1980 accounted for 5.8 percent of total employment, compared to 3.9 percent for the U.S. as a whole. The past two years have been extremely hard for the nation's farmers. Oversupply and weak demand, high interest rates, and high costs have combined to beat the farmer at every turn. Personal income from Alabama farms in 1980 was 39.7 percent less than the 1979 level. While up slightly in 1981, farm income was still only 90 percent of what it was in 1979.

Demographic Influences

The age and racial composition of Alabamians has further influenced the state's level of unemployment. Unemployment among minority populations and teenagers historically has run above the overall unemployment rate, and Alabama has concentrations of both groups above national averages. In 1980 the black population accounted for 25.6 percent of all Alabamians, more than twice the U.S. proportion of 11.7 percent. Alabama ranks sixth in the nation in terms of black population proportion. Teenagers make up a slightly larger share of the Alabama population than for the nation as a whole. In 1980 teenagers comprised 9.7 percent of the total Alabama

population, compared to 9.3 percent for the U.S., ranking the state fourteenth in teenage population concentration. A breakdown of Alabama's 1980 unemployment rate of 8.8 percent shows joblessness among whites was 6.5 percent, among blacks the rate was 15.7 percent, and teenagers marked 22.9 percent. A breakdown of 1981's 10.7 percent unemployment rate shows a jobless rate of 7.5 percent for whites, 21.3 percent for blacks, and 27.0 percent for teenagers.

Outlook for Recovery

The effects of the recession were apparent in the Alabama economy as early as 1979, although the recession did not dominate the national economy until 1980. The state and national economies are inseparable; recovery cannot occur in the Alabama economy until recovery is evident in the national economy. But once recovery is under way a return to the trends of the 1970's is anticipated, and the Alabama economy should again grow at an above-average pace.

The national economic rebound began in the last quarter of 1982. Reductions in interest rates should spur consumer purchases of houses, automobiles and other durables, thus providing great benefits to the state's ailing primary metals and contract construction industries. The recent conclusion of an import limitation agreement with the European community, which contains special stipulations for pipe and tube products, should stimulate the Alabama steel industry. Alabama farmers should be encouraged by the Reagan Administration's farm export policy. About 4.5 percent of Alabama Gross State Product is derived from farming.

The Alabama Econometric Model (7) developed and maintained by the Center for Business and Economic Research at the University of Alabama in Tuscaloosa is designed to mathematically capture the interrelationships among key economic measures such as industrial output, employment, personal income and tax revenues. As the direction of the state's economy is determined by the national economy, so are national forecasts used to "drive" the state model. The Alabama Econometric Model uses the model by Wharton Economic Forecasting Associates for its national input.

The most recent forecast by the Alabama Econometric Model was produced in late November 1982. The forecast period spans 1981 through 1991. The current forecast calls for Gross State Product, Alabama per capita income, and manufacturing wage rates to increase at rates above national averages after the recovery has begun. Unemployment will cloud an otherwise bright horizon. Joblessness in Alabama should remain above ten percent for most of the 1980's, well above the national unemployment rate which is projected to average near seven percent. Other highlights from the forecast follow.

Gross State Product

Gross Product, often defined as the total dollar value of all goods and services produced in an economy, is generally considered the broadest measure of economic well-being. Data from the model bear out the fact that Alabama has indeed fared worse than the nation during the recession. Gross State Product during the three-year period 1980 through 1982 averaged annual growth of 5.7% percent while the nation averaged 8.6 percent. These growth figures are somewhat deceptive because they do not consider the effects of inflation. Adjusted for inflation, Alabama Gross State Product declined during the three years, falling an average 2.3 percent annually. Correspondingly, Gross National Product averaged zero real growth during the three-year period.

The five years 1983 through 1987 should see a return of the trend toward more rapid growth in the Alabama Economy over the national economy as shown in Figure I-1. Gross State Product is forecasted to grow an average of 11.5 percent annually during the period, compared to a projected annual average 10.0 percent growth for Gross National Product. Adjusted for inflation, Alabama Gross State Product is projected to average 5.0 percent growth annually during the five-year period, compared to an average growth rate of 4.5 percent annually for Gross National Product. While all sectors of the economy will share in Gross State Product gains between 1983 and 1991, uneven gains will result in a changing composition of Gross State Product, as seen in Table II-1.

In 1978 per capita Gross State Product was more than 77.5 percent of per capita Gross National Product. This ratio slipped steadily during the recession and is expected to bottom out at near 72.0 percent in 1983. A return to the 1978 ratio is not expected until 1988 as Figure II-2. indicates.

Employment

Alabama experienced three successive years of declines in total employment beginning in 1980. Total employment is projected to increase in 1983 although the 1979 level of employment is not expected to be exceeded until 1984. Figure II-3 details the path of total employment growth in Alabama and the United States.

Unemployment in Alabama is projected to remain higher than the national average through 1991, as seen in Figure II-4. An unemployment rate of at least ten percent is projected to be a chronic problem for Alabama. A jobless rate of less than ten percent is not anticipated until 1988. By 1991 unemployment in the state is projected at about 8.4 percent, which compares to a national rate of 6.5 percent for 1991.

Real U.S. Gross National Product and Alabama Gross State Product Growth Rates, 1978-1991
(Percent of 1972 Dollars)

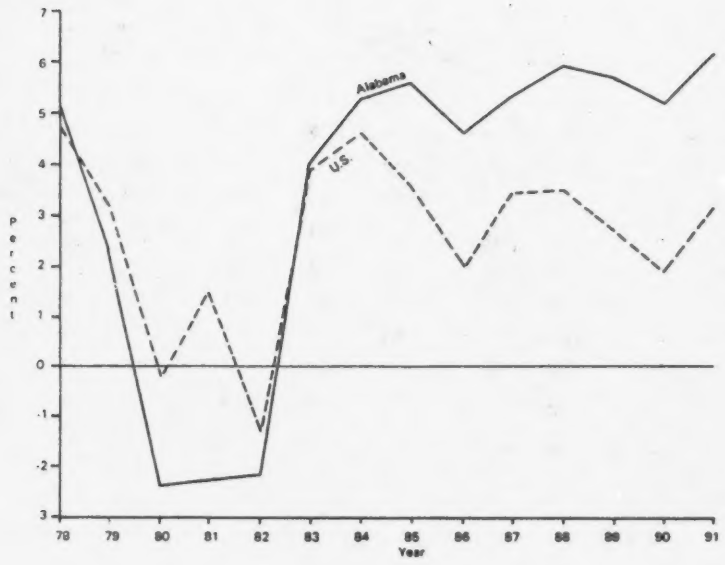

Figure II-1

Alabama Per Capita Gross State Product as a Percentage of U.S. Per Capita Gross National Product, 1978-1991
(Percent of 1972 Dollars)

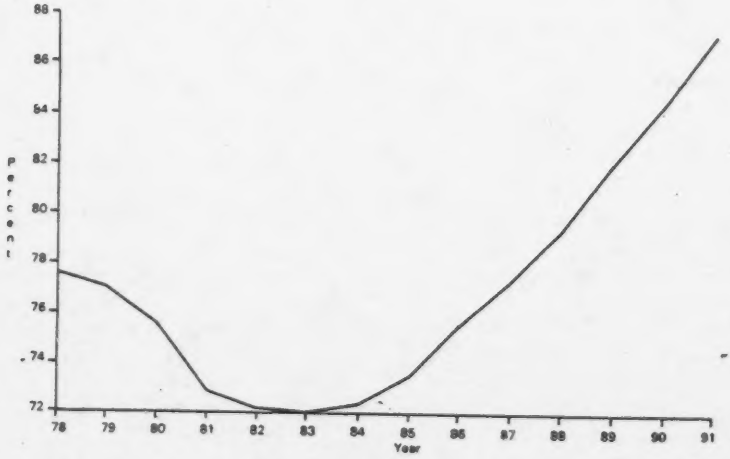

Figure II-2

Table II-1

Alabama Real Gross State Product by Sector, 1979-1991

Sector	1979		1983			1991		
	Real GSP	% of Total	Real GSP	% of Total	% Change from 1979	Real GSP	% of Total	% Change from 1983
Alabama Total	19.685	100.0	19.101	100.0	-3.0	29.196	100.0	52.8
Manufacturing	5.949	30.2	5.152	27.0	-13.4	7.566	25.9	46.8
Mining	.320	1.6	.333	1.7	4.1	.720	2.5	116.2
Construction	.778	4.0	.563	2.9	-27.6	1.698	5.8	201.6
Trade	3.054	15.5	3.124	16.4	2.3	4.536	15.5	45.2
Services	1.831	9.3	1.876	9.8	2.4	2.317	7.9	23.5
FIRE	2.405	12.2	2.607	13.6	8.4	4.785	16.4	83.5
TCU	1.868	9.5	1.925	10.1	3.0	3.172	10.9	64.8
Government	2.887	14.7	3.051	16.0	5.7	3.927	13.4	28.7
Farming	.593	3.0	.469	2.4	-20.9	.476	1.6	1.5

U.S. and Alabama Total Employment Growth Rates 1978-1991
(Percent)

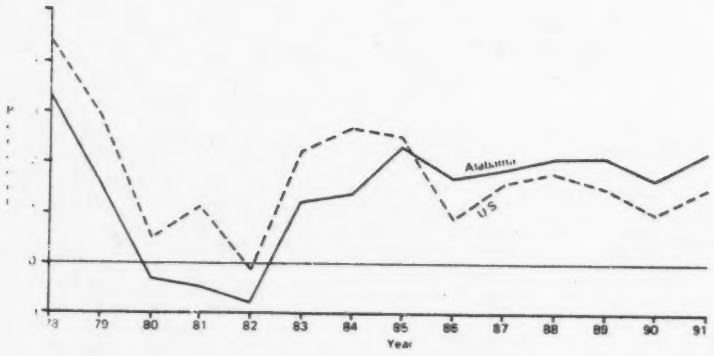

Figure II-3

Unemployment Rates for Alabama and the United States, 1978-1991
(Percent)

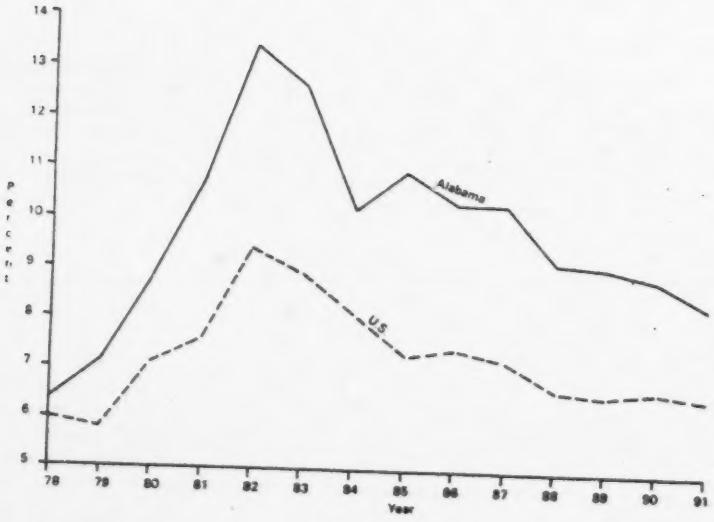

Figure II-4

Shifts are anticipated in the shares of jobs among the state's industries, reflecting a slowly maturing economy. Both durable and non-durable goods manufacturing are projected to lose employment shares in the next ten years. Wholesale and retail trade, government, and finance, insurance and real estate sectors should post gains in employment share over the next ten years. Services employment has been affected by the recession, increasing in share of employment as other sectors lost jobs during the recession years of 1980-1982. The share of services employment is anticipated to decline in the coming years as Alabama manufacturing regains momentum. Farming employment, now about 1.3 percent of Alabama employment, is anticipated to decline steadily in the coming years, accounting for less than 0.9 percent of wage and salary employment by 1991. Table 2 identifies these changes.

Personal Income

Higher than average personal income growth in Alabama was another promising trend from the 1970's that was stifled by the recession. While Figure II-5 shows that total personal income growth rates in Alabama are expected to exceed those in the United States during each of the forecast years, this trend for per capita income is not projected to resume until 1985. In 1978, Alabama per capita personal income stood at 80 percent of the national average. The following year a period of decline in the ratio began, and this decline is not anticipated to bottom out until 1984 when Alabama per capita personal income is to be 76.8 percent of the national figure. The 1978 per capita personal income ratio is not expected to be matched until 1988. Figure II-6 depicts this ratio.

Manufacturing Wage Rates

Alabama manufacturing wages are forecast to increase at rates above national averages through 1991 after fluctuating around national growth rates during the recession years. The state's historically lower wage rates have often been used to attract industry. In spite of the closing gap between Alabama and national wage rates, the state is projected to retain a comparative edge throughout the forecast period, with average annual wages for the Alabama worker expected to be near 90 percent of the national average in 1991 for both durable and non-durable goods employment.

Retail Trade

Retail trade in Alabama took a beating during the recession years 1980 through 1982 but should rebound rapidly during the years of recovery. Alabama retail sales increased by an average 3.8 percent annually for the three recession years. After adjusting for inflation, however, the real value of retail sales in Alabama fell each year. The average annual decline in retail sales amounted to 3.7 percent with 1980 being the worst of the three years when a decline of 8.1 percent in real retail sales was seen.

Table II-2

Alabama Employment by Sector, 1979-1991

Sector	1979 Number Employed	1979 % of Total	1983 Number Employed	1983 % of Total	1983 % Change from 1979	1991 Number Employed	1991 % of Total	1991 % Change from 1983
Total Employment	1,677,904	100.0	1,670,124	100.0	-0.5	1,946,961	100.0	16.6
Proprietors	176,006	10.5	172,406	10.3	-2.0	198,664	10.2	15.2
Wage & Salary	1,501,898	89.5	1,497,622	89.7	-0.3	1,748,383	89.8	16.7
Manufacturing	375,605	22.4	340,375	20.4	-9.4	372,080	19.1	9.3
Mining	16,652	1.0	16,672	1.0	0.1	17,442	0.9	4.6
Construction	75,260	4.5	63,694	3.8	-15.4	101,104	5.2	58.7
Trade	275,795	16.4	292,176	17.5	5.9	371,117	19.1	27.0
Services	256,188	15.3	268,364	16.1	4.7	276,779	14.2	3.1
FIRE	58,540	3.5	61,197	3.7	4.5	84,323	4.3	37.8
TCU	71,683	4.3	74,530	4.5	4.0	90,136	4.6	20.9
Government	342,913	13.7	351,822	14.0	2.6	407,478	14.6	15.8
Farming	23,109	1.4	21,330	1.3	-7.7	17,430	0.9	-18.3

U.S. and Alabama Total Personal Income Growth Rates
1978-1991
(Percent of Current Dollars)

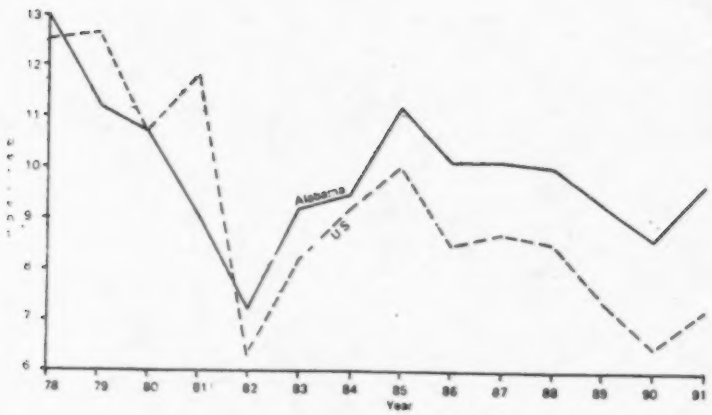

Figure II-5

Alabama Per Capita Income as a Percentage of U.S. Per Capita Income
1978-1991
(Percent of Current Dollars)

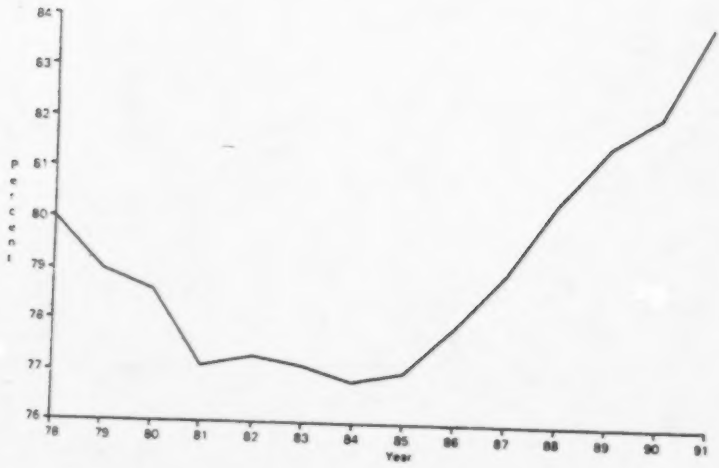

Figure II-6

The retail trade sector in Alabama should witness marked improvement beginning in 1983. Growth in retail sales should average 12.3 percent annually for the five-year period beginning in 1983. Prospects of rapid growth dim somewhat after adjusting for inflation, but the retail trade sector should remain robust, increasing more rapidly than real Gross State Product. The outlook calls for average annual growth of 6.0 percent in real retail sales for the period 1983 through 1987.

The effects of recession are most apparent in the breakdown of total sales by category. The general merchandise and food categories accounted for an increased share of total sales over durable goods categories, particularly automotive, during 1980-1982. A marked increase in the share of sales by the automotive category is not anticipated until 1984 but should continue to gain strongly through 1991. Automotive sales are projected to claim the top spot in retail sales share from the food sales category by 1987 and continue to dominate retail sales through 1991. Another indication of recovery in the economy is reflected in an increased share of retail dollars spent in the lumber category over the forecast period, indicating renewed construction activity.

State Tax Revenues

Total Alabama tax revenues have shown widely fluctuating growth patterns in recent years. Revenues in 1980 increased by 7.0 percent, down from the 10.6 percent growth seen in 1979. However, in 1981 revenues spurted up 12.2 percent, buoyed by oil lease revenue and a change in reporting of income tax withholding. Revenues increased by only 4.8 percent in 1982--due in part to the reporting change.

Stable growth at ten to twelve percent per year is expected to return in 1983. Annual average growth in state tax revenues is forecast at 11.8 percent for the years 1983 through 1991. Total tax revenue is forecast to amount to $2.45 billion in 1983, increasing to $3.86 billion in 1987 and to $6.08 billion in 1991.

Among the major state tax sectors, the individual income tax is projected to increase most rapidly during 1983 through 1991, averaging growth of 15.7 percent annually. The corporate income tax is second in growth over the nine-year period, projected to increase an average 14.0 percent annually. The state gasoline tax is forecast to grow least rapidly among the major tax revenues, averaging 2.3 percent growth annually during 1983-1991. Projected growth rates for total tax revenues and for the two largest tax sectors, individual income and sales taxes are identified in Figure II-7.

A shift by state government to greater reliance on the individual income tax is anticipated during 1983-1991, as shown in Table II-3, In 1983 revenue from the indivudal income tax is projected at $363.9 million, 26.0 percent of total state tax collections. By 1987 the individual income tax, at a level of $1,160.0 million, is projected to account for 30.0 percent of tax revenues. By 1991 revenue from the individual income tax should surpass $2 billion and account for 33.8 percent of total state tax collections.

Table II-3

Alabama Tax Collections by Sector, 1979-1991
(Millions of Current Dollars)

Tax Sector	1979		1983		1991	
	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total
Total	1769.364	100.0	2450.000	100.00	6078.962	100.0
Individual Income	365.909	20.2	636.859	26.0	2054.301	33.8
Corporate Income	88.578	5.0	107.983	4.4	293.179	4.8
Sales	491.684	27.8	620.764	25.3	1538.875	25.3
Use	55.618	3.1	74.711	3.0	198.297	3.3
Utility	93.962	5.3	110.968	4.5	275.879	4.5
Gasoline	147.396	8.3	216.183	8.8	247.589	4.1
Other	526.217	29.7	682.634	27.9	1470.669	24.2

Alabama Total, Individual Income, and Sales Tax Growth Rates, 1978-1991
(Percent of Current Dollars)

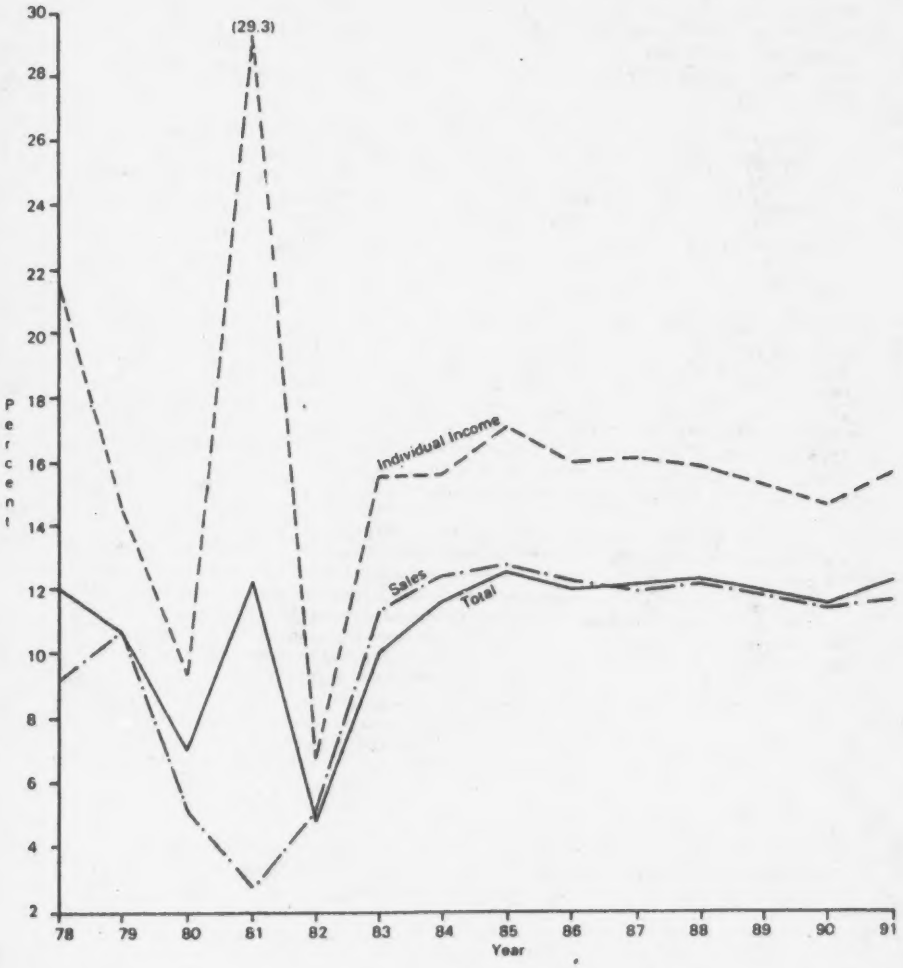

Figure II-7

Alabama's Regional Planning and Development Districts

Alabama's regional planning and development districts partition the state into twelve geopolitical planning units (Figure II-8). The most recent forecast using the twelve-region version of the Alabama Econometric Model was produced in December 1982.[2] The forecast horizon encompasses the period 1981 through 1991. The major components of these analyses will be nominal labor and proprietors' income by source, wage and salary employment by industry, unemployment rate and nominal wage and salary income.

The 1980-1982 recession caused virtually every district to experience varying amounts of decline in the total number of people engaged in wage and salary employment for the period 1981 through 1982. Growth rates for wage and salary employment by district are projected to be positive and a little sluggish for most of the districts between 1983 and 1985. The sluggishness in wage and salary employment growth will die out by 1985 in most of the districts. Three notable exceptions to this trend are Districts 4, 5 and 6.

The pattern of the relative rankings among the districts, based on total wage and salary employment, will be quite stable for the eleven-year period beginning with 1981. The only projected change in the relative ranking is between 1985 and 1986 when Districts 8 and 12 will swap positions. The Birmingham Regional Planning Commission (District 3) will continue to rank first in terms of the number of people employed. This district will continue to have a dominant position in employment among the planning districts with an annual average of 26.3 percent of Alabama's total wage and salary employment between 1981 and 1991.

The comparative disparity between the districts with the smallest and largest nominal average annual wage and salary income per employee is expected to be quite stable ranging from a high of 61.3* percent in 1981 to a low of 60.5 percent in 1987. The fluctuations in the comparative disparity between the pre- and post-recessionary period evidenced in unemployment will not carry over into the average annual wage rate. It appears that adjustments among the average wage income per employee will not be a major device in alleviating the inter-regional disparity in district unemployment rates.

Districts 1, 2, 4 and 10 can expect to experience faster growth in nominal average annual wage and salary income per employee between

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*The closer this percentage is to 100 the less the disparity, for a given economic series, between the district with the highest value as compared to the district with the lowest value.

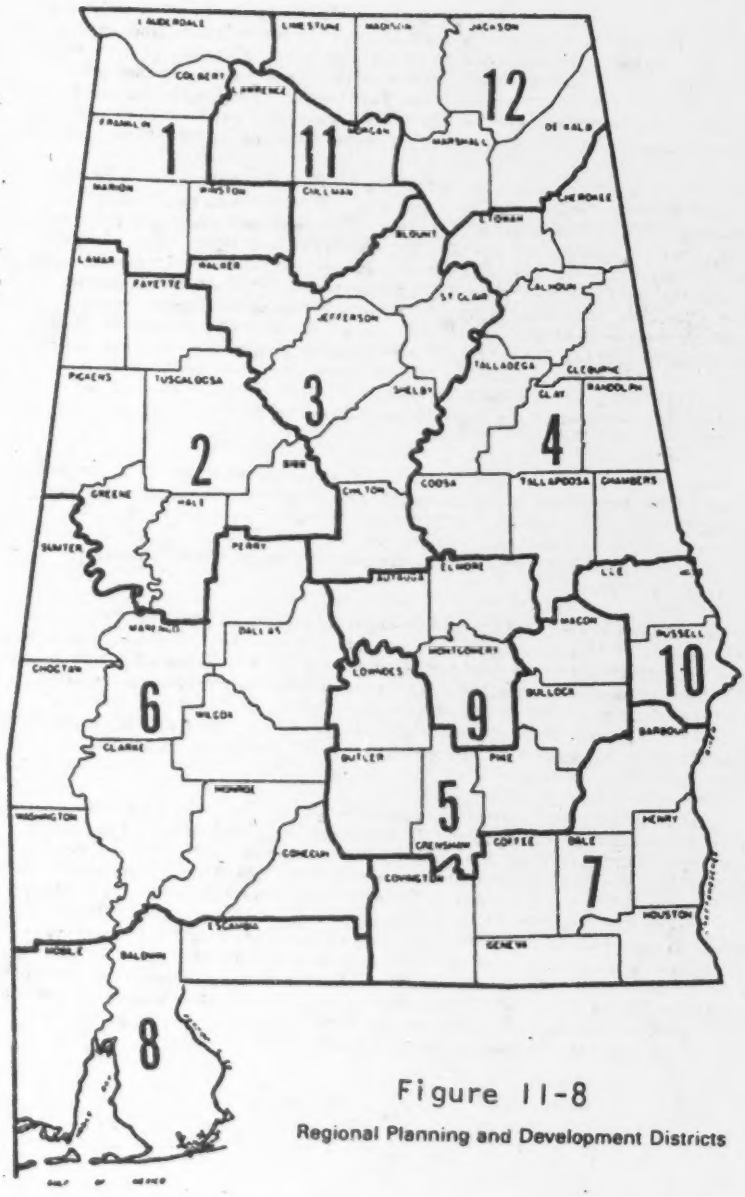

Figure II-8

Regional Planning and Development Districts

1981 and 1991 than the state as a whole. Districts 6, 7, 11 and 12 are projected to exhibit sluggish growth in average annual wage and salary income per employee as compared to the overall annual state growth rate. The relative rank order of average annual wage and salary income per employee across the districts will be fairly stable between 1981 and 1986. This stability will be upset in the middle rankings between 1987 and 1991 with Districts 2, 11 and 12 posting sizeable changes in relative rankings.

District 1 is projected to have the highest unemployment rate for each year between 1981 and 1991. District 10 will have the lowest. The average annual comparative disparity for regional unemployment rates is projected to average 63 percent between 1981 and 1991. The widest annual comparative disparity for regional unemployment is 60 percent in 1982 and the narrowest will be 65.3 percent in 1988. As the economic recovery becomes complete, disparities among the unemployment rates across the twelve districts will subside a little. The average annual comparative disparity in terms of unemployment rates will go from 61.5 percent for 1981 through 1984 to 65.2 percent for the period 1985 through 1991. The period 1985 through 1991 will exhibit less of an interdistrict difference in unemployment rates than the first part of the 1980's.

Some shifting in the distribution of unemployment rates is projected to take place among the districts with the greatest change in rankings occurring during the period 1981 through 1985. Districts 2, 3, 4, 6 and 12 epitomize the variation in annual rank order for this time period. These fluctuations are expected to die out for most of the planning districts by 1989.

The unemployment picture will brighten across all of the districts as the U.S. and Alabama economies recover and move into the post-recessionary period. Even though unemployment by district will subside, it will remain above the national average and persist as a nagging problem to regional and state planners. For those districts such as Districts 1, 6 and 11 which will have unemployment rates consistently and substantially above Alabama's unemployment rate, unemployment will continue to be an omnipresent policy issue.

Steady growth in nominal personal income is projected to take place across the twelve planning districts between 1983 and 1991. The growth in personal income during the 1980-1982 recessionary period will be positive but sluggish in comparison to the post-recessionary period. Beginning in 1983 and continuing through 1991 the distribution of growth rates across the districts for personal income will be bunched about the Alabama state growth rate. No district is projected to have an exceptionally high or low growth rate that would signal a dramatic shift in the distribution of income within the state. The Birmingham Regional Planning Commission (District 3) will continue to be the dominant source of personal income with an average of twenty-eight percent of the annual state total personal income for the period 1981 through 1991.

District 6 is projected to consistently have the lowest and District 3 the highest per capita personal income among the districts for the period 1982 through 1991. The average annual comparative disparity between Districts 6 and 3 for the above period is 62.7 percent. The comparative advantage is to steadily decrease from a high of 68.1 percent in 1981 to a low of 58.1 percent in 1991. This trend reflects a widening of the gap between the richest and poorest districts as measured by per capita personal income. The broadening of the spread among regional per capita personal income is expected to continue unabated through 1991.

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III. SEWERAGE SYSTEMS

There are 281 sewerage treatment facilities in Alabama, all owned by municipalities, towns, and villages which they serve.

Construction of 14 municipal waste treatment projects were scheduled in 1982 at a cost of 44.4 million having a combined treatment capacity of 42 million gallons of waste per day.

Inventory of Systems

The inventory of waste treatment systems in Alabama as of September 30, 1981, was as follows:

192 systems with 270 discharges having a combined capacity of 448.7 million gallons of waste per day (MGD)

15 primary facilities discharging 10.17 MGD

254 biological facilities discharging 437.26 MGD

1 untreated waste discharge of 0.15 MGD

10 treatment facilities under construction with a total design capacity of 54.4 MGD, at a total cost of $83.7 million

14 waste treatment projects to begin construction in 1982 with combined capacity of 42 MGD, at a total cost of $44.4 million.

In addition, ten municipal facilities were under construction at a total estimated cost of $83.7 million. The municipalities of Dothan, Alexander City, Jefferson County, Tuskegee, and Brewton will replace overloaded or inadequate biological treatment facilities. Decatur is replacing primary facilities. The systems at Wind Creek Park and Fountain-Holman Prison will replace failing septic tanks. The town of Samson is providing treatment for the last raw sewage discharge in the State. Huntsville is providing treatment facilities for development in its western area plus the communities of Madison and Triana.

Municipal Needs

A large number of Alabama's waste treatment facilities will have to be upgraded or replaced over the next several years in order to meet treatment requirements. These needs are the result of development of criteria for secondary treatment under the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), and subsequent adoption of essentially the same criteria by Alabama.

Alabama will continue to assign top priority to expediting Federal grant applications for needed municipal construction. A needs list prepared by the Alabama Water Improvement Commission (AWIC) in 1981, and submitted to EPA, included municipal waste control projects that can be funded in fiscal year 1982, requiring the total amount of funds available. Municipalities not on the fundable list are included on an "extended" priority list, and the Commission has the authority, when delays occur in top priority projects, to fund lower priority projects that are ready to proceed.

A ten percent bonus grant is provided to those municipalities constructing innovative or alternative treatment systems. This provision may reduce the cost of treatment for those municipalities which are faced with financial problems.

Table III-1 lists that portion of the EPA needs required to satisfy the backlog. The categories are as follows.

Category I - Secondary Treatment and Best Practicable Wastewater Treatment Technology -$269,932,000

Category IIA - Advanced Secondary Treatment (AST) -$76,380,000

Category IIB - Advanced Wastewater Treatment (AWT) -$17,749,000

Category IIIA - Infiltration/Inflow Correction -$15,323,000

Category IIIB - Major Sewer System Rehabilitation (not I/I related) -$4,045,000

Category IVA - New Collectors and Appurtenances -$374,047,000

Category IVB - New Interceptors and Appurtenances -$77,763,000

TABLE III-1

PORTION OF COST OF RECORD REQUIRED TO SATISFY BACKLOG BY COUNTY (i.. Thousands)

County	Category I	Category IIA	Category IIB	Category IIIA	Category IIIB	Category IVA	Category IVB	
Autauga	1183	-0-	-0-	-0-	-0-	1348	140	
Baldwin	8200	1476	-0-	1492	-0-	6803	2828	
Barbour	1868	434	-0-	572	-0-	4691	484	
Bibb	261	-0-	-0-	-0-	-0-	1490	528	
Blount	1828	615	-0-	893	-0-	497	135	
Bullock	4224	1457	-0-	361	-0-	417	103	
Butler	630	246	-0-	255	-0-	1680	147	
Calhoun	23770	6705	-0-	3811	-0-	19499	3343	
Chambers	445	-0-	-0-	1968	-0-	5195	1282	
Cherokee	950	-0-	-0-	228	-0-	239	44	
Chilton	2752	1138	-0-	1653	-0-	2390	302	
Choctaw	1715	303	-0-	153	-0-	1994	762	
Clarke	1913	1287	-0-	418	-0-	4379	1267	
Clay	2348	-0-	-0-	388	-0-	1452	1643	
Cleburne	1064	356	-0-	-0-	-0-	1134	171	
Coffee	3937	244	-0-	1767	-0-	2854	260	
Colbert	11151	213	-0-	2044	3298	2186	142	
Conecoh	282	-0-	-0-	92	-0-	912	106	
Coosa	955	294	-0-	-0-	-0-	1003	163	
Covington	7050	2205	-0-	313	-0-	1206	893	
Crenshaw	343	-0-	-0-	-0-	232	783	178	
Cullman	2853	2042	-0-	2883	-0-	3683	1123	
Dale	8296	706	-0-	1159	-0-	9753	1227	
Dallas	4165	-0-	-0-	3456	-0-	8696	919	
DeKalb	2464	2427	-0-	1362	-0-	4037	905	
Elmore	2335	-0-	-0-	418	-0-	3828	1066	
Escambia	4918	-0-	-0-	-0-	-0-	3643	276	
Etowah	11749	12389	-0-	7716	-0-	12622	2531	
Fayette	1090	361	-0-	356	-0-	309	31	
Franklin	872	124	-0-	-0-	-0-	4031	288	
Geneva	745	274	-0-	536	-0-	926	92	
Greene	105	-0-	-0-	-0-	-0-	333	89	
Hale	863	2242	-0-	184	-0-	1267	161	
Henry	790	350	-0-	32	-0-	2092	89	
Houston	4852	2800	-0-	3445	-0-	3880	1181	
Jackson	1295	-0-	-0-	472	-0-	11474	10349	
Jefferson	40632	8242	-0-	38129	-0-	128675	25468	
[illegible]	[illegible]	77	-0-	438	-0-	2038	585	
Lauderdale	1635	-0-	-0-	950	-0-	3079	335	
Lawrence	1322	333	-0-	-0-	-0-	768	845	
Lee	5030	6690	-0-	3539	-0-	218	73	
Limestone	7095	2434	-0-	807	-0-	767	119	
Lowndes	877	275	-0-	408	-0-	591	280	
Macon	1520	-0-	-0-	50	-0-	2283	639	
Madison	10759	-0-	-0-	6371	-0-	1569	1038	
Marengo	610	847	-0-	27	-0-	1359	25	
Marion	2201	179	248	1089	-0-	3606	1424	
Marshall	11965	3329	-0-	4504	-0-	4639	876	
Mobile	9824	822	-0-	8685	-0-	27119	1356	
Monroe	469	-0-	-0-	27	-0-	825	229	
Montgomery	-0-	-0-	-0-	-0-	-0-	897	-0-	
Morgan	2760	1277	436	272	-0-	1737	272	
Perry	1184	457	-0-	99	-0-	223	16	
Pike	-0-	-0-	-0-	1253	-0-	1233	-0-	
Pickens	1138	-0-	-0-	925	-0-	-0-	148	
Randolph	-0-	457	-0-	368	-0-	244	91	
Russell	4332	230	-0-	382	-0-	17318	220	
St. Clair	4765	2057	-0-	512	-0-	5635	2037	
Shelby	11451	2348	-0-	474	-0-	11861	2207	
Sumter	2202	-0-	-0-	40	-0-	3921	317	
Talladega	13768	1152	-0-	1208	515	2325	686	
Tallapoosa	3258	168	-0-	1794	-0-	1479	231	
Tuscaloosa	-0-	-0-	-0-	183	-0-	4915	215	
Walker	3283	2074	2631	4526	-0-	6792	715	
Washington	1197	228	-0-	-0-	-0-	915	217	
Wilcox	-0-	-0-	-0-	-0-	-0-	735	175	
Winston	1533	1216	-0-	366	-0-	3572	1796	
	269932	76380	17749	115323	4045	374047	77763	935,239,000

Currently there is no state financing available for sewer plant construction or maintenance. Cities and counties are generally following EPA guidelines for the establishment of rates which will amortize local funds used for construction and maintenance. EPA construction grants are estimated to be $27.3 million in both FY84 and FY85.

Federal Grant Program

The Federal grant program under which funds are allocated to Alabama municipalities for construction of waste treatment facilities is administered by the Alabama Water Improvement Commission (AWIC) under the Federal Water Pollution Control Act Amendments of 1972, as amended on December 28, 1977, by the Clean Water Act (PL-95-217).

The program has undergone continuous change since the enactment of the Federal Water Pollution Control Act of 1972 (PL 92-500). The amount of funds allocated on a nationwide basis has fluctuated from year to year, and the percentage of funds available to Alabama has changed several times over the years, as indicated in Table III-2.

TABLE III-2

Fiscal Year	Federal Funds Available	Alabama's Percentage Share	Funds Received by Alabama
1972	$2.0 billion	1.6931	$33,862,000
1973	2.0 billion	.3612	7,224,000
1974	3.0 billion	.3612	10,836,000
1975	4.0 billion	.8016	33,785,150
1976	9.0 billion	2/3 .3612 1/3 .8016	43,975,950
1977 (Public Works)	480 million	4.90	23,520,000
1977 (Supplementary)	1 billion	1.09	10,905,000
1978	4.5 billion	1.2842	57,789,000
1979	4.2 billion	1.2842	53,189,100
1980*	2.52 billion	1.2842	31,554,965
1981*	2.544 billion	1.2842	32,278,892
		Total	$338,931,077

*June 5, 1981, President Reagan rescinded $1.7 billion from Fiscal Years 1980 and 1981 funds. Alabama's share of the recision, $21,055,923.

It is estimated that Alabama will receive $27.3 million in fiscal '84 and '85 for wastewater treatment from the Federal Government.

Table III-3 shows expenditures for sewerage by year for Alabama and the national average.

TABLE III-3

EXPENDITURES FOR SEWERAGE BY YEAR FOR ALABAMA
(In millions; 1981 = 100)

	Alabama		
Fiscal Year	Total Expenditures	Capital Outlay	Other
1962 -	10.1	7.5	2.6
1966 - 1967	11.7	7.2	4.9
1970 - 1971	21.9	14.7	7.2
1971 - 1972	17.3	8.0	9.3
1972 - 1973	40.51	19.25	21.26
1973 - 1974	41.14	20.78	20.36
1974 - 1975	58.32	37.8	20.92
1975 - 1976	74.09	52.49	21.90
1976 - 1977	124.12	90.30	33.82
1977 - 1978	104.80	66.60	38.20
1978 - 1979	95.4	51.87	43.55
1979 - 1980	97.06	56.70	40.37
1980 - 1981	92.78	51.82	40.96

Source: Data for 1962 and 1967, U.S. Bureau of Census, Census of Governments; data for 1971-1981, U.S. Bureau of Census, Governmental Finances in (Year).

Table III-4 shows the per capita expenditures for sewerage by year for Alabama and national average in current dollars.

TABLE III-4

PER CAPITA EXPENDITURES FOR SEWERAGE BY YEAR FOR ALABAMA AND NATIONAL AVERAGE IN CURRENT DOLLARS

	Alabama			National Average		
Fiscal Year	Total Expenditures	Capital Outlay	Other	Total Expenditures	Capital Outlay	Other
1962 -	3.04	2.26	.78	6.83	4.78	2.06
1966 - 1967	3.30	2.03	1.27	8.25	5.41	2.83
1970 - 1971	6.29	4.22	2.07	12.83	8.46	4.38
1971 - 1972	4.93	2.28	2.65	15.18	10.04	5.14
1972 - 1973	11.44	5.44	6.00	38.45	25.89	12.56
1973 - 1974	11.51	5.82	5.69	40.11	25.98	14.13
1974 - 9175	16.13	10.46	5.67	44.46	30.15	14.29
1975 - 1976	20.29	14.31	5.97	44.52	29.64	14.99
1976 - 1977	33.64	24.48	10.12	45.63	29.37	16.26
1977 - 1978	28.00	17.79	10.21	46.49	28.43	18.06
1978 - 1979	25.31	13.77	11.56	51.96	33.19	18.77
1979 - 1980	24.96	14.57	10.37	50.23	31.84	18.39
1980 - 1981	23.82	13.30	10.52	52.24	32.45	19.80

Based on the 1981 AWIC Needs survey, Alabama will require about $1,000.7 in capital improvements between 1982 and 2000 to meet the EPA requirements. To determine the ability of the State to pay a share of these improvements, it is instructive to total the cost of capital improvements between 1971 and 1981 (Table III-3). Only 28% of this capital outlay of $455.61M ($127.57M) was local money. Based on the present state population of 3,690,000, the average per capita state constribution for capital expenditures has been only $3.45. It may be expected that this amount for the next period 1982-2000 will be about $3.50. During the same period, the Federal contribution is expected to be constant at the low value of $7.40 per capita based on an annual amount of $27.3M for 1984. Thus the average total income available per capita for 18 years will be $3.50 + $7.40 = $10.90. Multiplying this by 18 and by the average population of 3,970,000 would provide $778.9M by the year 2000. But $1000.7M was previously estimated to be the capital outlay requirement so the shortfall should be $221,8M (Table III-5).

TABLE III-5

SEWERAGE CAPITAL OUTLAY - NEEDS VS REVENUES
(In millions of 1982 dollars)

Capital Outlay	Revenues		
Needs	Federal	Local	Shortfall
$1,000.7	$528.8	$250.1	$221.8

IV. TRAFFICWAYS

Background

The trafficways in Alabama consist of 87,483 miles of state highways, county roads and city streets. The state highway system consists of 20,708 miles of interstate routes, federal-aid primary, federal-aid secondary, and federal-aid urban highways. The remaining 66,775 miles are local roads. (See Table IV-I). Approximately 25,000 miles are not paved.

The state has 906.5 miles of interstates. Currently 825.5 miles are open, 45.1 miles under construction 29.7 miles under design and 6.2 miles in preliminary survey.

The state has a total of 15,187 bridges (see Table IV-II). Of this total 5,007 are maintained by the Alabama Highway Department, 9,373 by the counties, 777 by the municipalities, and 30 by the railroads.

TABLE IV-I

MILEAGE BY SYSTEM
(As of 12/31/82)

	Built	Projected	Total
Interstate	826	80	906
Federal-Aid Primary	6,608	320	6,928
Urban	2,202	214	2,416
Secondary	11,074	182	11,256
Local	66,775	0	66,775
	87,483	798	88,281

Source: Alabama Highway Department Bureau of State Planning

TABLE IV-2

ALABAMA BRIDGES

CUSTODIAN	BRIDGES ON INTERSTATE SYSTEM	BRIDGES ON FEDERAL AID PRIMARY SYSTEM	BRIDGES ON FEDERAL AID SECONDARY SYSTEM	BRIDGES OFF FEDERAL AID SYSTEM	BRIDGES ON FEDERAL URBAN SYSTEM	TOTAL
ALABAMA HWY. DEPT.	956	2589	974	130	358	5007
COUNTIES	--	18	2253	7086	16	9373
MUNICIPALITIES	--	3	5	666	103	777
RAILROAD	--	1	4	22	3	30
TOTAL	956	2611	3236	7904	480	15,187

Source: Alabama Highway Department Bridge Inventory (8-6-81)

*Includes culverts and underpasses

Current Expenditures

The total highway expenditures by year are given in Table IV-III. The Alabama Highway Department is responsible for approval and construction of all federally assisted trafficways in the state and is responsible for maintenance of all state highways. Total expenditures of the Department increased from $185.3M in 1972-1973 to $413.3M in 1980-81. The local municipalities and county governments are currently responsible for the remaining 66,775 miles. Local expenditures (excluding federal-aid projects) increased from $100.1M to $207.4M.

The State Department began reducing their support of local roads in the early 1970's. By 1980-1981 all State Department support had been eliminated for local and county roads.

TABLE IV-3

ALABAMA STATE AND LOCAL EXPENDITURES FOR HIGHWAYS
(In Millions of Dollars)

	Total Expenditure			Capital Outlay			Other		
Year	State	Local	Total	State	Local	Total	State	Local	Total
1972 - 1973	185.3	100.1	285.4	147.8	25.8	173.6	37.5	74.3	111.8
1973 - 1974	216.1	114.3	330.3	176.6	34.1	210.5	39.5	80.2	119.8
1974 - 1975	228.9	122.7	351.6	183.7	38.0	221.8	45.2	84.7	129.8
1975 - 1976	275.4	139.5	414.9	226.2	42.1	268.3	49.2	97.4	146.6
1976 - 1977	293.0	142.2	435.4	232.3	33.8	266.2	60.7	108.6	169.2
1977 - 1978	321.5	147.8	469.2	246.2	33.9	280.1	75.3	113.9	189.1
1978 - 1979	339.7	162.6	502.3	223.7	36.9	260.6	116.0	125.7	241.7
1979 - 1980	329.7	188.4	518.1	219.6	46.8	266.4	110.1	141.6	251.7
1980 - 1981	413.3	207.4	620.8	285.2	41.2	326.4	128.1	166.2	294.4

Revenues

The principal sources of state highway revenues in 1981-1982, aside from federal funds, are: net gasoline tax of $56.6M, gasoline excise tax of $31.5M, motor fuel tax of $11.1M, net license fees of $34.1M, net motor fuel tax of $22.5M, petroleum products inspection fees of $7.4M, and truck identification decals of $4.2M. Also in 1981-1982, $56M in highway bonds was an additional revenue source. These sources accounted for $223.4M or 89% of total state revenues Table IV-4.

After the funds are adjusted to 1981 dollars it can be seen that state funds have been decreasing until 1980-1981. Beginning in 1980-1981 the State Legislature increased the gasoline tax from 7¢ to 11¢ per gallon resulting in $31.5M in additional revenue.

TABLE IV-4

ALABAMA HIGHWAY DEPARTMENT REVENUES
($ x 1,000,000)

	GASOLINE & MOTOR FUEL TAX	MOTOR VEHICLE & MOTOR CARRIER TAX	BOND	OTHER	STATE TOTAL	CONSTANT DOLLARS 1981 = 100
1974 - 1975	73	29	50	35	187	309
1975 - 1976	78	30	--	48	156	262
1976 - 1977	82	32	--	53	167	270
1977 - 1978	87	33	40	45	205	277
1978 - 1979	88	35	--	50	173	194
1979 - 1980	87	36	--	21	144	141
1980 - 1981	124	43	10	20	197	197
1981 - 1982	122	35	56	38	251	

Source: 71st Annual Report of State of Alabama Highway Department 1982

The level of local funding for highway expenditures is also given in Table IV-III. The trend for total expenditures is nearly constant after being adjusted to 1981 dollars (see Table IV-5). However, the trend for expenditures for capital outlay is down significantly from 1972-73 after being adjusted to 1981 dollars. The trend appears to be more level since 1978-1979.

TABLE IV-5

LOCAL GOVERNMENT HIGHWAY EXPENDITURES
(Millions)

YEAR	CURRENT DOLLARS	TOTAL CONSTANT DOLLARS 1981 = 100	CAPITAL OUTLAY CURRENT DOLLARS	CONSTANT DOLLARS 1981 = 100
1972 - 1973	101.1	229.2	25.8	59.1
1973 - 1974	114.3	202.3	34.1	60.4
1974 - 1975	122.7	202.5	38.0	62.7
1975 - 1976	139.5	234.4	42.1	70.7
1976 - 1977	142.4	230.7	33.8	54.8
1977 - 1978	147.8	199.5	33.9	45.8
1978 - 1979	162.6	182.1	36.9	41.3
1979 - 1980	188.4	184.6	46.8	45.9
1980 - 1981	207.4	207.4	41.2	41.2

Per capita expenditures for capital outlay and maintenance are given in Table IV-6. Alabama's per capita expenditures for capital outlay has fallen below the national average since 1979. On the other hand, Alabama's per capita expenditures for maintenance have risen above the national average since 1979.

TABLE IV- 6

ALABAMA PER CAPITA STATE AND LOCAL EXPENDITURES
FOR HIGHWAYS COMPARED TO U.S. PER CAPITA EXPENDITURES
(in current dollars)

	Alabama		U.S.	
Year	Capital Outlay	Maintenance Expenditure	Capital Outlay	Maintenance Expenditure
1973	49.05	31.59	54.61	34.10
1974	58.85	33.49	57.49	36.86
1975	61.37	35.92	64.04	41.66
1976	73.20	40.00	66.19	45.19
1977	72.14	45.85	57.76	49.04
1978	74.85	50.53	59.15	53.70
1979	69.14	64.13	70.72	58.48
1980	68.48	64.70	84.48	62.59
1981	83.82	75.60	85.34	67.40

*All operating expenditures for state and local highway departments including administration.

Source: U.S. Bureau of Census Governmental Finances in (Years).

Needs

The Alabama Highway Department has not conducted any comparison of the condition of the state highway system pavement. However, a recent article in Constructor Magazine indicated that 66.2% of the paved roads as deficient (Table IV-7). This same article indicated that 45% of the state's bridges are defieient (Table IV-8).

In 1979 the Department conducted a 20-year highway systems needs.(20) This needs survey indicated that $3,927M will be needed between 1982-1999 to improve the state system (excluding interstate) to the standards of the American State Highway Transportation Officials (ASHTO).

The Highway Department has estimated to complete the remaining miles of the state interstate system will cost $1,038M in 1982 dollars. Alabama counties are responsible for the maintenance of 57,426 miles of paved and unpaved roads. Of this amount 32,333 miles are paved. A 1981 survey by the Association of County Commissioners of Alabama revealed that 56% of the paved county roads need resurfacing at a cost of $284M.

Alabama counties are responsible for the maintenance of 9,373 bridges. A 1981[17] survey by the Association of County Commissioners of Alabama revealed that 53% are structurally deficient or functionally obsolete by Federal Highway Administration criteria. Eight hundred and sixty of the 4,983 structurally deficient or functionally obsolete bridges are on the Federal Aid Secondary System. The survey estimated that $92M in replacement costs are needed for the county bridges on the Federal Aid System. Also, $321M in replacement costs are needed for the county bridges of the Federal Aid System.

TABLE IV-8

DEFICIENT MILES OF PAVEMENT IN THE SOUTHEAST

State	Total Paved Miles	"Poor" Rated Mileage	"Fair" Rated Mileage	Total Deficient Miles	Percent Deficient
North Carolina	67,060	20,923	37,352	58,275	86.9%
Kentucky	43,706	8,129	28,409	36,538	83.6%
Tennessee	50,744	14,817	23,088	37,905	74.7%
Virginia	48,623	5,154	29,466	34,620	71.2%
Alabama	57,524	5,120	32,961	38,081	66.2%
South Carolina	44,455	9,336	15,559	24,895	56.0%
Florida	65,033	9,495	26,143	35,638	54.8%
Georgia	61,689	925	27,575	28,500	46.2%
Mississippi	36,973	N.A.	N.A.	13,163	35.1%

Source: Constructor Magazine, June 1983.

TABLE IV-8

DEFICIENT BRIDGES IN THE SOUTHEAST

State	Total Bridges in State	Bridges Requiring Reconstruction	Percent Requiring Reconstruction
North Carolina	15,398	11,373	74%
Mississippi	16,468	10,973	67%
Tennessee	16,867	9,025	54%
Alabama	14,802	6,614	45%
Kentucky	12,533	5,339	43%
South Carolina	8,566	1,951	23%
Georgia	14,391	2,533	18%
Virginia	12,237	2,247	18%
Florida	9,011	51	1%

Source: Constructor Magazine, June 1983.

The Highway Department has estimated that $672M will be needed statewide to bring all bridges in the state up to standard.

Given these data and the known present maintenance data, an estimate of the road and street needs in Alabama was made (Table IV-9.) to the year 2000. The total 1982-2000 cost to maintain the present system is $4,494M and to complete the interstate system is $970M. The total cost by the year 2000 to improve the system is an additional $7,212M. These costs do not include operation and administration costs such as equipment purchases, administration, and other expenditures. In 1981-1982 these costs by the Highway Department totaled $18M, debt service amounted to $85M, and construction totaled $254M. Likewise the local operation and administration costs totaled $25M. If these O&A costs are included the 1982-2000 total cost would increase by $874M.

In summary the 1982-2000 total road and street needs in Alabama are:

Maintain present system - $4,494 + 874 = $5,368M

Improve condition (additonal) - $7,212M

$12,580M

This equates to $699M a year.

TABLE IV-9

ROAD AND STREET NEEDS IN ALABAMA
(In millions of 1982 dollars)

		Average Annual		1982 - 2000 Total	
	Miles[3]	Maintain Present System	Additional to Improve System	Maintain Present System	Additional to Improve System
State Maintained					
Interstate	906	16	27	285	488
FAS	9899	69	218	1240	3927
County Maintained					
FAS	8818				
Other Paved	23513	110	83	1972	1492
City Streets	14773	50	33	895	586
Bridges		6	40	102	719
Total		251	401	4494	7212

[3]less unpaved roads

Source: Alabama Highway Department and Center for High Technology Management and Economic Research at University of Alabama in Huntsville

Needs Versus Revenue

The 4¢ increase in the gasoline tax in 1981 has resulted in $31.5M additional revenue to the Highway Department. This additional revenue has resulted in a leveling of their state revenue between $200 - $250M per year. This comes after a number of years of continual reduction in revenue in constant dollars. On the other hand local revenue appears to be leveling around $200M.

The Surface Transportation Act of 1982 provides for an additional 4¢ per gallon gas tax be allocated for federal-aid trafficway systems. The Alabama Highway Department has estimated that this could result in an additional $60M per year.

Given these estimates, total 1982-2000 state revenue should be approximately $8.74B. Therefore, the difference between needs and revenue is $3.84B (see Table IV-10). If gasoline consumption continues to fall, maintaining this level of state effort will require further increases in gasoline taxes in the future.

TABLE IV-10

TRAFFICWAY - NEEDS VS REVENUE

Needs	Revenue	Shortfall
12.580B	8.74B	3.84OB

V. AIRPORTS

Alabama has a State Airport System Plan. The State of Alabama Department of Aeronautics has general supervision over all phases of civil aviation in the State.

There are 103 airports in the State, including 5 military airports. (See Table V-1.) In 1973 the Department of Aeronautics initiated a statewide airport system evaluation. The objective of this study was to analyze every airport open to the public and to determine which airports were essential in maintaining a viable and economically sound airport network. Results of this study identified 82 airports as being essential to the State Airport System Plan. These airports have 98.8% of the based aircraft and all air carrier activity in the State. Study results also suggested the need for the development of one new airport in the Warrior area to complete the Alabama airport network. The forecast of enplaned passengers at each of the nine air carrier airports for the years 1980, 1990, and 2000 is given in Table V-1.

TABLE V-1

FORECAST OF ENPLANED PASSENGERS

AIRPORT	1980	1990	2000
Anniston	38,800	73,000	140,000
Birmingham	864,800	1,638,000	3,010,000
Dothan	89,300	169,000	310,000
Gadsden	14,200	27,000	50,000
Huntsville	387,700	816,000	1,650,000
Mobile	396,900	752,000	1,380,000
Montgomery	290,800	530,000	940,000
Muscle Shoals	32,300	61,000	110,000
Tuscaloosa	49,800	75,000	130,000
State Total	2,155,600	4,141,000	7,720,000

The Table in Appendix A lists the projected status of each airport in 1985 and the recommended improvements.

The only sources of revenue provided the Department of Aeronautics for its airport construction program and operating expenses are the aviation fuel taxes (Table V-2). Currently the tax on jet fuel is 1.2¢ per gallon and on aviation gasoline is 3.6¢ per gallon. In addition, the Legislature provides the Department with $600,000 per year.

Larger airports apply directly to the Federal Government for grants and loans to improve and maintain these facilities. There is no estimate of the Federal funding available.

TABLE V-2. RECEIPTS FROM AVIATION FUEL
(1981 - 82)

MONTH	JET FUEL GALLONS	AVIATION GAS GALLONS
October	2,088,107	627,482
November	5,061,986	471,080
December	2,857,689	383,240
January	3,393,146	427,453
February	2,970,760	280,415
March	2,859,432	336,664
April	3,391,810	506,773
May	3,094,836	393,208
June	3,076,986	416,586
July	2,699,041	197,109
August	3,049,891	566,018
September	2,918,906	563,665
	37,462,590	5,466,693
Total		42,929,283

In 1980 the enplanement of passengers was 2,199,600 (Table V-1). Enplanement in 2000 is estimated at 7,720,000. With increased enplanement and modest increase in aviation fuel it is reasonable to assume that Aviation Fuel Receipts in 2000 will be $129,829,851. Using the average of $93,572,659, the revenue between 1980 and 2000 should be $1.660,870,430. Needs are listed in Table V-2, but cost has not been assigned. With expected increases in federal funding from the Airport Trust Fund, possible future revenue shortfalls are expected to be modest.

VI. WATER SYSTEMS

Alabama is blessed with an abundance of streams and lakes and an adequate annual rainfall. The larger streams, the Tennessee River, the Coosa-Alabama River system, and the lower Tombigbee, provide Alabama with one of the largest navigable waterways systems in the nation.

This abundance of water is not without its problems associated with Public Water Systems. Many Public Water Systems obtain their water from the State's streams which have many pollution problems while others obtain water from wells. Some systems obtain water from both streams and wells. The section on wastewater treatment provides a measure of the pollution problem. Alabama Public Water Systems have a continuing need to improve existing Public Water Systems Treatment Plants. Construction of additional plants will be required as population increases or shifts to new locations.

There are 700 community Public Water Systems in the State (Table VI-1). In addition, there are 151 non-community Public Water Systems as follows:

Population	% of Total
less than 500	92%
500 - 1000	7%
1000 plus	1%

TABLE VI-1

Population	% of Total
Less than 500	32.3%
500 - 1,000	19.9%
1,000 - 5,000	37.6%
5,000 - 10,000	7.1%
10,000 - 25,000	5.3%
25,000 - 50,000	.7%
50,000 - 100,000	.6%
100,000 plus	.6%

Alabama's per capita expenditure for water and sewer systems was less than the national average by 11% in 1962 and 44% in 1981. Average per capita capital outlay was $11.42 for the past five years. If it remains at this level in real terms during the next 18 years, total need for water system capital outlay will be $816M in 1982 dollars over the period 1982-2000.

TABLE VI-2

ALABAMA EXPENDITURES FOR WATER SUPPLY BY YEAR
(In Millions of Current Dollars)

Fiscal Year	Total	Current Operation	Capital Outlay	Interest on Debt
1962 -	32.2	12.1	14.4	5.7
1966 - 1967	37.4	15.2	14.3	7.1
1970 - 1971	52.5	22.6	21.9	8.5
1971 - 1972	50.0	24.0	17.7	8.3
1972 - 1973	58.8	27.0	22.2	9.6
1973 - 1974	68.7	34.0	23.0	11.7
1974 - 1975	82.6	38.3	31.8	12.5
1975 - 1976	80.9	43.4	23.6	13.7
1976 - 1977	94.1	45.2	34.8	15.0
1977 - 1978	115.8	56.4	42.7	16.7
1978 - 1979	124.5	59.7	41.2	23.7
1979 - 1980	152.6	66.9	63.0	22.7
1980 - 1981	142.3	82.6	35.6	24.1

TABLE VI-3

PER CAPITA CAPITAL OUTLAY FOR WATER SUPPLY BY YEAR
ALABAMA AND NATIONAL AVERATE (In dollars)

Fiscal Year	Alabama Capital Outlay	National Average Capital Outlay
1962 -	4.34	4.91
1966 - 1967	4.15	5.35
1970 - 1971	6.29	6.03
1971 - 1972	5.04	6.44
1972 - 1973	6.27	6.83
1973 - 1974	6.43	8.25
1974 - 1975	8.8	9.91
1975 - 1976	6.44	10.29
1976 - 1977	9.43	10.63
1977 - 1978	11.41	9.80
1978 - 1979	10.93	13.14
1979 - 1980	16.20	14.43
1980 - 1981	9.14	16.41

Source: Data for 1962 and 1967m, U.S. Bureau of Census, Census of Governments; data for 1971-81, U.S. Governmental Finances In (Year).

VII. WATER TRANSPORT AND TERMINALS

Alabama is third in the nation in miles of navigable waterways, with the potential to move into first position among the states. Today's 1,300 miles of nine-foot channel will extend to 1,700 miles within a few years. (See Figure VII-1.)

The Chattahoochee-Apalachicola System provides navigation from the Gulf Intracoastal Waterway in Apalachicola River to Phenix City, Alabama.

The Tennessee System is navigable from Knoxville, Tennessee, down to northeast Alabama and archs through northwest Alabama into western Tennessee and Kentucky to its confluence with the Ohio and Upper Mississippi Rivers.

The Alabama-Coosa System, now completed to Montgomery will ultimately provide a nine-foot channel from Mobile to Rome, Georgia.

The Warrior-Tombigbee System provides a nine-foot channel from Mobile to Cordova, in Walker County, (on the Mulberry Fork of the Black Warrior River) and to Epes, Alabama, on the Tombigbee. The Birmingham Industrial Complex has access to this waterway.

A canal to connect the Tombigbee and Tennessee Rivers is now under construction. This nine-foot channel will provide Mobile a slack water route to the Ohio and Upper Mississippi Rivers that will be 700 miles shorter to Middle America and link Alabama's deep water port with over 16,000 miles of navigable waterways.

These great natural river systems provide year-round navigation. Construction of power dams on each system is increasing the generating capacity of hydroelectric power and fresh water lakes for both industrial water supply and unsurpassed recreational facilities.

The Intracoastal Canal with freight service from Panama City, Florida, via the Port of Mobile to Brownsville, Texas, is maintained at a channel depth of 12 feet and width of 125 feet.

Port of Mobile

The Port of Mobile is served by more than 100 steamship lines with connections to the major ports of Latin America, United Kingdom, Europe, Mediterranean, Africa, Asia and the Pacific.

WATERWAY SYSTEMS

Figure VII-1

The channel is 36½ miles in length from the outer bar to Chickasaw Creek with a maintained depth of 40 feet. Minimum width in the River section is 500 to 1,000 feet. In the Bay Channel, minimum width is 400 feet. The channel over the outer bar is 42 feet by 600 feet.

Alabama State Docks at Mobile

The seaport docks owned by the State of Alabama and operated as the Alabama State Docks Department are situated on the west side of the Mobile River, fronting on the city's main business district. This docks system is one of the busiest seaport terminals in the nation. Built to serve industry and world commerce, the State Docks are equipped with more than three miles of concrete wharves, where as many as 34 ocean going vessels can be accommodated at one time. Covered warehouse space exceeds 2½ million square feet. A modern high speed bulk materials handling facility was recently put into operation.

A $45 million bond issue was recently approved to provide funds for modernization and expansion of handling facilities to meet the anticipated increase in tonnage. Another $100 million has been proposed to handle expanded activities as it relates to the completion of the Tenn-Tom and its effects on the Port of Mobile.

Alabama State Inland Docks

The Inland Docks Division of the Alabama State Docks has constructed terminals along the waterways system. These also serve as valuable indusrial sites for plants requiring water transportation (Figure VII-1).

It is difficult to estimate the needs in addition to those mentioned herein. The opening of the Tennessee-Tombigbee will have a significant effect on the traffic to and through the Port of Mobile. It is anticipated that the fee structure for the port facilities will be sufficient to satisfy future needs.

VIII RAIL

Railroad operations in Alabama have historically been oriented to the movement of goods between major population centers and the Gulf Coast port cities. Through the years those routes radiating out from the land-water transfer points have been integrated into a much more comprehensive rail network. Prior to 1865 the center of rail activity in Alabama coicided with its governmental center of Montgomery, while the industrial city of Birmingham was still relatively isolated from rail service. Since those early days, the increased production of large quantities of bulk commodities in the greater Birmingham area has resulted in the increasing importance of that city as the railroad hub of the state and region.

With 4,497 miles of track in 1979, Alabama ranked eighteenth (18th) among the states in terms of the extensiveness of its rail system over which freight is carried (Table VIII-1). Compared with other southeastern states, only Georgia's rail mileage exceeds that of Alabama. Alabama rail mileage comprfses approximately 2.39 percent of the nation's rail mileage.

Alabama is presently served by 21 railroad companies which operate on the 4,497 miles of track within the State. The system is well developed, and service is available to most geographic portions of Alabama.

Several of the railroads are owned, controlled, operated by, leased, or are in some other way affiliated with larger railroads and railroad corporation. Seven of the companies are controlled entirely or in part by the Southern Railway System. Seaboard Cost Line and its Family Lines affiliate, Louisville and Nashville Railroad, governs four additional lines and share interest in a fifth line with Southern Railway. The American Can Company directs operation of two lines, while the remaining eight lines are owned by various private companies, most of which own the railroads incidental to their businesses.

The extensiveness of each operating company is set out in Table VIII-2. The Louisville and Nashville Railroad Company operates the largest system in Alabama including 1,276 miles of track, and together with its parent company, Seaboard Cost Line Railroad Company, run a 1,982-mile network within the State inclusive of all affiliated companies. Nationwide the Seaboard and affiliated lines operate almost 16,000 miles of track. The second largest railroad company in Alabama, the Southern Railway System, operates 1,659 miles of track within Alabama by Southern and its affiliated railroad companies. Other Class I lines in Alabama with their statewide track totals are the Saint Louis-San Francisco Railway (525 Miles) and Illinois Central Gulf Railroad (379 miles). Remaining Class II Railroads along with Switching and Terminal Companies operate 267 miles of railroad in the State.

The Alabama Highway Department is the designated Alabama agency concerned with rail planning and has prepared the second annual update of the State Rail Plan[23].

Table VIII-1

GROWTH IN RAILROAD MILEAGE*
SELECTED SOUTHERN STATES
1850 to 1979

	RAILROAD MILEAGE							
STATE	1850	1860	1865	1875	1880	1890	1899	1979
Virginia	515	1,771	1,407	1,638	1,893	3,368	3,721	3,511
North Carolina	248	889	984	1,356	1,486	3,128	3,656	3,640
South Carolina	289	987	1,007	1,335	1,427	2,297	2,792	2,772
Georgia	643	1,404	1,420	2,264	2,459	4,593	5,598	5,471
Florida	21	401	416	484	518	2,489	3,234	3,698
Alabama	132	743	805	1,732	1,843	3,422	4,051	4,497
Mississippi	75	872	898	1,018	1,127	2,471	2,788	3,161
Louisiana	79	334	335	539	652	1,750	2,664	3,452
Tennessee	---	1,197	1,296	1,630	1,843	2,799	3,131	3,136
Kentucky	78	569	567	1,326	1,530	2,946	3,083	3,572
Total	2,080	9,167	9,135	13,322	14,778	29,263	34,718	36,910

* 1979 Class I and II Line-Haul Railroads

Source: 1980 State of Alabama Rail Plan

Table VIII-2

RAILROADS AND RAIL MILEAGE STATISTICS

RAILROADS OPERATING IN ALABAMA

MAIN AND BRANCH LINE

RAILROAD	ALPHA CODE	MILES OPERATED ENTIRE LINE	MILES OPERATED WITHIN ALABAMA[1]	PERCENT OF ENTIRE LINE WITHIN ALABAMA
Class I Railroads				
Alabama Great Southern Company	AGS	528	270	51.1%
Central of Georgia Railroad Company	CGA	1,978	395	20.0%
Illinois Central Gulf Railroad Company	ICG	8,704	379	4.4%
Louisville & Nashville Railroad Company	LN	6,632	1,276	19.2%
St. Louis-San Francisco Railway Company	SLSF	4,488	525	11.7%
Seaboard Coast Line Railroad Company	SCL	8,850	573	6.5%
Southern Railway Company	SOU	5,819	945	16.2%
Total Class I		36,999	4,363	11.8%
Class II Railroads				
Western Railway of Alabama (The)	WA	133	133	100.0%
Birmingham Southern Railroad Company	BS	84	84	100.0%
Total Class II		217	217	100.0%
Class III Railroads				
Tennessee, Alabama, & Georgia Railway Co.	TAG	103	49	47.6%
Atlanta & St. Andrews Bay Railroad Company	ASAB	139	24	17.3%
Meridian & Bigbee Railroad Company	MBRR	51	31	60.8%
Hartford and Slocomb Railroad Co., Inc.	HS	22	22	100.0%
Chattahoochee Valley Railway Company	CHV	14	12	85.7%
Sumter and Choctaw Railway Company	SC	4	4	100.0%
Mobile and Gulf Railroad	MG	12	12	100.0%
Total Class III		341	154	45.2%
Switching and Terminal Companies and Other				
Terminal Railway Alabama State Docks	TASD	67	67	100.0%
Birmingham Terminal Company	BT	1	1	100.0%
Woodstock & Blocton Railway	WB	10	10	100.0%
Total Switching and Terminal and Other		78	78	100.0%

[1] Totals differ from data from other sources because of reporting methods.

SOURCE: Railroad Mileage by States, Association of American Railroads; Washington, D. C. December, 1979.

A variety of issues are addressed in the State Rail Plan and include:

- o Light Density Rail Lines - There exists in Alabama a number of rail lines which are unprofitable to the operating railroad.
- o Deferred Maintenance - The operating railroads have deferred maintenance on a number of lines in the State.
- o Freight Car Availability - The availability of certain car types at certain times of the year is a recurring problem. This is also a nationwide problem.
- o Public Safety - The carriage of hazardous materials, by all modes, has become a public issue.
- o Railroad Profitability - The low rate of return on railroad investment and the subsequent of difficulty encountered by railroads in accumulating capital is a problem nationwide.
- o Rail Passenger Services - The provisions of rail passenger services continues to be an unprofitable venture. However, there are energy and public welfare advantages offered by the rail mode which must be considered.
- o Public Assistance - While the 4R Act has made public assistance available, it has included difficulties in the application of such funds to rail problems, e.g., use of funds only after abandonment approval. The Local Rail Service Assistance Act of 1978 extended the use of funds to cover any line carrying 3 million or less gross tons per ton mile regardless of abandonment status, but funds are of such limited amounts that solutions to urgent rail problems cannot be accomplished.
- o Railroad Mergers - Three merger applications were presented to the Interstate Commerce Commission (ICC) which involve railroads located in the State of Alabama.
- o Urban Rail Systems - The location of trackage in Alabama's urbanized areas, especially in Birmingham, continues to be a problem.

Light Density Rail Line Prioritization

The Railroad Revitalization and Regulatory Reform Act funds may be necessary to retain needed rail service. This section determines which rail lines may be suitable for such public fund use, and which lines may be elibible.

Table VIII-3 summarizes the abandonment impacts as calculated for each light density line. As shown, only six lines have estimated severe community impacts associated with abandonment. This is because several rail users on these lines are dependent on the rail mode and would close or move away given the abandonment of direct rail service.

Table VIII-3

ABANDONMENT IMPACT EVALUATION

Alabama Light Density Rail Lines

1980

Light Density Line	ANNUAL IMPACT DUE TO ABANDONMENT Community Income	User Transport Cost	Total Impact
Magnolia to State Line	0	0	0
Boyles to Ruffner No. 2	678,400	31,464	709,464
Camden to Camden Jct	211,560	304,038	515,598
Bay Minette to Foley	0	0	0
Navco Spur	480,539	0	480,539
York to Lilita	64,250	115,825	180,075
Union Springs to Andalusia	0	0	0
Marion to Arkon	0	123,025	123,025
Dolonah Branch	0	0	0
Hartford to Dothan	$1,254,870	61,749	1,316,619
Bellamy to Lilita	64,250	115,825	180,075
Grimes to Abbeville	0	0	0
Elba to Enterprise	117,600	10,876	128,476

Operating Assistance Evaluation

One form of public assistance to private railroads is that of operating assistance. This type could include direct subsidy payments to keep a certain line open, loans to be paid back from profits if the light density line becomes profitable, or other types of direct assistance. However, such assistance must be viewed as short-term help which will not continue year after year.

Table VIII-4 summarizes the costs, revenues and profits for each light density rail line and compares the estimated annual losses with the estimated annual impacts expected to result from line abandonment.

A public assistance type that is more in harmony with the State's goal of assistance that will not be a recurring need is that of rail line rehabilitation. Many of the light density lines have deferred maintenance, and some are in need of new rail ties and even outright reconstruction. Table VIII-5 lists the rehabilitation needs of each of the lines. The one-time cost is compared to the present worth of the benefits over a ten-year period to derive a cost benefit cost ratio. As shown, six of the lines indicate that rehabilitation is justified.

In the course of evaluation by the Highway Department five lines were identified as justifying types of assistance other than rehabilitation. These five lines were Elba to Enterprise, Boyles to Ruffner No. 2, Camden to Camden Junction, Marion to Akron and the Navco Spur.

Light Density Line Prioritization

In the State Rail Plan the rail lines are prioritized in terms of their potential use of Railroad Revitalization and Regulatory Reform Act Funds. Table VII-6 presents the resultant line prioritization scheme. The top two lines were contained in our rail plan addendum and the proposed projects are currently under way. The next four lines are viewed as reasonable potentials regarding the utilization of public funds. The remaining 14 lines are viewed as much lower priorities for which public funds do not appear to be justified.

In summary $15.314M is needed in rehabilitation assistance. Assuming that local government and private interests will contribute up to 50 percent of the costs, then $7.657M will be needed from federal sources. The State of Alabama at present does not have a program to subsidize the purchase and/or operations of branchlines.

Table VIII-4

OPERATION ASSISTANCE EVALUATION

ALABAMA LIGHT DENSITY RAIL LINES

1980

Light Density Line	Profit and Loss			Abandonment Impact
	Revenue	Cost	Deficit	
Magnolia to State Line	0	0	0	0
Boyles to Ruffner No. 2	73,066	169,128	96,062	709,464
Camden to Camden Jct	293,400	370,243	76,843	515,598
Bay Minette to Foley	0	0	0	0
Navco Spur	111,161	98,312	12,849	480,539
York to Lilita	264,699	278,900	14,201	180,075
Union Springs to Andalusia	0	0	0	0
Marion to Arkon	31,802	162,292	130,292	123,025
Dolonah Branch	0	0	0	0
Hartford to Dothan	798,299	925,896	127,597	1,316,619
Bellamy to Lilita	264,699	278,900	14,201	180,075
Grimes to Abbeville	0	0	0	0
Elba to Enterprise	235,095	285,565	50,470	128,476

Source: 1980 State of Alabama Rail Plan

Table VIII-5

REHABILITATION ASSISTANCE EVALUATION

ALABAMA LIGHT DENSITY RAIL LINES

Light Density Line	Rehabilitation Cost	BENEFITS		B/C Ratio
		Annual	Present Worth	
Magnolia to State Line	1,729,863	482,214	2,962,723	1.71
Boyles to Ruffner No. 2	152,348	805,531	779,409	5.11
Camden to Camden Jct	-0-	-	-	-
Bay Minette to Foley	1,362,075	122,615	753,347	0.55
Navco Spur	281,444	493,028	513,542	1.82
York to Lilita	212,000	202,430	1,008,704	4.75
Union Springs to Andalusia	8,698,400	94,071	577,972	.066
Marion to Arkon	1,164,304	125,502	768,154	.66
Dolonah Branch	-0-	-	-	-
Hartford to Dothan	450,000	1,316,619	9,498,992	7.78
Bellamy to Lilita	-	202,430	1,008,704	-
Grimes to Abbeville	773,000	162,383	997,687	1.29
Elba to Enterprise	490,662	128,476	270,858	0.55
	15,314,296			

Source: 1980 State of Alabama Rail Plan

Table VIII-6

LIGHT DENSITY LINE PRIORITIZATION

ight Density Line	B/C Ratio	Rationale Summary	Proposed State Action
artford to Dothan	7.78	Massive abandonment impact, large B/C ratio and project under construction.	Rehabilitation project Under Way
lagnolia to Florida State Line	1.71	Large gains in rail efficiency, large B/C ratio; project under way.	Rehabilitation project Under way
ork to Lilita & ellamy to Lilita	4.75	Large abandonment impact, large B/C ratio, dependence of S&C R.R.	Rehabilitation project Possible private solution
amden to Camden Jct	2.94	Large abandonment impact, large B/C ratio.	Short line operation
Boyle to Ruffner No. 2	2.98	Large B/C ratio	Alternate mode conversion
Marion to Akron	2.95	Large B/C ratio	Alternate mode conversion
Navco Spur	1.82	Large B/C ratio	Rehabilitation assistance
Elba to Enterprise	2.95	Large B/C ratio	Relocation assistance
Grimes to Abbeville	1.29	Saving to Railroad	Rehabilitation assistance
Bay Minette to Foley	0.55	Impact modal dependency of shippers.	Rehabilitation assistance
Union Springs to Andalusia	0.07	Number of shippers effected & B/C ratio.	Rehabilitation assistance
Dolonah Branch	0.00	No Impact	None

Source: 1980 State of Alabama Rail Plan

IX. MASS TRANSIT

Background

Public transit service involving regularly scheduled bus lines is provided in only five Alabama cities (Birmingham, Montgomery, Mobile, Tuscaloosa, and Phenix City. There is also a dial-a-ride sytsem in Gadsden. The Phenix City service is actually provided by the larger adjacent city of Columbus, GA. The general trend of metropolitan scheduled bus service in Alabama has been toward a decline of both ridership and equipment, although there was a slight (3.9%) increase in the total number of buses between FY 79 and FY 81(24-26). However, since FY 79 the largest system (Birmingham) has undergone a major reduction in service following a strike by transit workers.

The six transit systems carried an average of more than 45,000 passengers per day in FY 81. Almost exactly one-half of these passengers were carried by the Birmingham System (BJCTA). The size of the six-system fleet was 344 vehicles, which operated an average of 14,779 vehicle-miles per day. Over 49% of these vehicle-miles were accumulated on the Birmingham system. Thus the recent reduction in the Birmingham system of from 13,810 vehicle-miles/day (FY 79) to 7,334 vehicle-miles/day (FY 81) has had a significant effect on total state mass transit data.

Financing Mass Transit

As in other areas of the U.S., mass transit farebox collections in Alabama cover only a part of the annual system costs. In 1981, farebox collections provided only 44.5% of the required revenue. Federal funds covered 27.7% of the cost and the remainder came from state and local sources.

Difficulties in financing local bus lines have caused Huntsville to discontinue all service in 1978 and Birmingham to reduce vehicle miles by 47% in FY 81. Data are not available on the plans of the six operating systems for operations through the year 2000. However, total operating cost in FY 81 was $6,494,838. The cutback in federal operating subsidies will probably lead to further curtailment of services and outright abandonment of local bus lines by municipalities in Alabama.

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APPENDIX A

AIRPORT IMPROVEMENTS

1985 STATE AIRPORT SYSTEM PLAN

Associated City Airport Name	Based Aircraft	Operations Air Carrier	Operations Gen Avn.	Major Improvements
Abbeville Abbeville Municipal	11		9,300	4,5,6,8,11
Alabaster Shelby County	127		43,800	1,2,5,6,7,11
Albertville Albertville Municipal	37		31,200	5
Alexander City T.C. Russell Field	20		19,200	5,6
Aliceville George Downer Field	15		10,800	1,4
Andalusia Andalusia-Opp	31		24,800	1
Anniston Anniston-Calhoun County	46	6,000	34,200	1,3,6
Ashland Ashland-Lineville Mun.	12		7,500	5
Atmore Atmore Mun.	37		19,200	5,6,8,11
Auburn Auburn-Opelika	85		103,500	1,2,7,8,9,11
Bay Minette Bay Minette Mun.	31		24,200	1,5,6,11
Bayou La Batre Roy E. Ray Field	68		21,100	1,6,7,9,11
Bessemer Bessemer Mun.	142		56,000	6,11
Birmingham Birmingham Mun.	213	61,000	242,900	10
Brewton Brewton Mun.	28		23,700	1,6,11
Brownsboro Mills Field	55		18,700	4,11

1985 STATE AIRPORT SYSTEM PLAN

Associated City Airport Name	Based Aircraft	Operations Air Carrier	Operations Gen Avn.	Major Improvements
Butler Bulter-Choctaw County	8		6,400	1,5
Camden Camden Mun.	21		17,800	1,5,6
Camp Hill Camp Hill-East Tallapoosa City	10		8,500	1,8
Centre Centre Mun.	25		16,400	1,5,6,11
Centreville Bibb County	8		5,900	1,4,5,8
Clanton Gragg Field	21		17,800	1,4
Clayton Clayton Mun.	10		8,500	1,4,6,11
Cullman Folsom Field	55		33,000	1,5,6,11
Dauphin Island Dauphin Island	0		6,000	4,9
Decatur Pryor Field	150		87,600	1,6,7,10,11
Demopolis Demopolis Mun.	14		20,200	1,4,6,9
Dothan Dothan Mun.	121	13,800	121,000	3,6,7,11
Dothan Wheelless	80		25,400	7,9
Double Springs Double Springs-Winston City	16		8,200	4,5,6
Elba The Carl Folsom Apt.	31		22,800	1,4,5,9,11

1985 STATE AIRPORT SYSTEM PLAN

Associated City Airport Name	Based Aircraft	Operations Air Carrier	Operations Gen. Avn.	Major Improvements
Enterprise Enterprise Mun.	18		11,200	4,5,6,8,11
Eufauula Weedon Field	26		16,700	8
Fairhope Fairhope Mun.	21		37,800	7,11
Fayette Richard Arthur Field	15		11,700	4,5
Foley Foley Mun.	31		20,100	1,2,5,6,8,11
Fort Payne Isbell Field	35		17,500	1,5,6
Gadsden Gadsden Mun.	66	6,000	39,200	3,6,11
Geneva Geneva Mun.	23		11,500	5,6,8,11
Greensboro Greensboro Mun.	9		9,700	1,5
Greenville Greenville Mun.	16		17,600	1,4,5,6,8
Grove Hill Grove Hill Mun.	3		4,000	1,2
Guntersville Guntersville Mun.	29		16,400	5,6,11
Haleyville Posey Field	44		26,400	1,5,6,7
Hamilton Marion County	44		22,000	1,5,6
Hartselle Rountree Field	43		26,000	1,5,6,11
Hazel Green Hazel Green	41		26,700	4.6,7,11

1985 STATE AIRPORT SYSTEM PLAN

Associated City Airport Name	Based Aircraft	Operations Air Carrier	Operations Gen Avn.	Major Improvements
Headland Headland Mun.	30		28,400	6
Huntsville Huntsville-Madison Cty	151	31,400	151,000	7,11
Huntsville South Huntsville	78		32,700	2,6,9,11
Jasper Walker County	70		46,700	1,5,6,8,11
Luverne Frank Sikes	8		5,600	1
Marion Perry County	10		13,800	6
Meridianville North Huntsville	81		48,600	1,7,11
Mobile Bates Field	144	41,000	108,100	3,6,7,11
Mobile Aerospace	101		66,700	--------
Monroeville Monroe County	46		33,500	6,7,11
Montogomery Dannelly Field	182	25,600	105,200	3,6,11
Muscle Shoals Muscle Shoals Metropolitan	94	3,200	51,600	3,6,7,11
Oneonta Robbings Field	36		17,00	1,8
Ozark Blackwell Field	66		48,500	1,5,6,8,11
Pell City St. Clair County	76		40,500	1,6,7,11
Prattville Autauga County	57		32,700	6,11

1985 STATE AIRPORT SYSTEM PLAN

Associated City Airport Name	Based Aircraft	Operations Air Carrier	Operations Gen Avn.	Major Improvements
Reform North Pickens County	16		13,700	1,4,5,6,8,11
Roanoke Roanoke Mun.	5		4,500	1,2,4,8
Russellville Russellville Mun.	34		25,000	1,5,6,11
Samson Logan Field	15		14,600	1,5,6,8
Scottsboro Scottsboro Mun.	22		29,800	1,8
Selma Selfield	63		37,800	6,11
Selma Skyharbor	29		22,800	8
Stevenson-Bridgeport Stevenson-Bridgeport Mun.	10		10,000	1,5,6,11
Sylacauga Lee Merkle Field	38		26,600	1,6,11
Talladega Talladega Mun.	46		48,900	11
Tallassee Tallassee Mun.	26		19,100	6,8,11
Theodore Idle Hour	45		17,200	6,11
Troy Troy Mun.	33		24,900	4,5,6,8,11
Tuscaloosa Van de Graaff Field	119	6,400	110,900	6,7,11
Tuskegge Moton Field	9		8,800	6
Union Springs Franklin Field	6		7,000	4,5,8

1985 STATE AIRPORT SYSTEM PLAN

Associated City Airport Name	Based Aircraft	Operations Air Carrier	Operations Gen Avn.	Major Improvements
Vernon-Sulligent Lamar County	6		4,000	1
Warrior (New)	28		21,800	12
Weaver McMinn Field	30		21,800	1
Wetumpka Wetumpka Mun.	94		61,400	1,5,7,8,11

LEGEND FOR MAJOR IMPROVEMENTS

1 Land acquisition
2 Runway extension
3 Air carrier terminal expansion
4 General Aviation terminal expansion
5 Major airfield or runway lighting
6 Major apron expansion
7 Auto parking areas
8 Fencing
9 Rehabilitation of paving
10 Land use control measures
11 Hangars
12 New airport